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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/564,415

02/28/2007

Gerard Noale

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CANTOR COLBURN, LLP
20 Church Street
22nd Floor
Hartford, CT 06103

EXAMINER

CHAN, HENG M

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

08/07/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

Office Action Summary	Application No. 10/564,415	Applicant(s) NOALE, GERARD	
	Examiner HENG M. CHAN	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Application

Claims 1-19 are pending and presented for examination on the merit.

Claim Objections

1. Claim 1 is objected to because a comma should be inserted between “chamber” and “covered” in line 4 to clarify that the surface coating is applied on the insulating composition, not the chamber.
2. Claim 9 is objected to because there appears to be an extraneous symbol after the “%” sign in the last two lines. Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The percentages of the instant claim do not add up to 100%. For examination purposes, the percentages are interpreted as the upper limits of the components suitable to equate to 100% total.
3. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The instant claim recites the phrases “on the one hand” and

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“on the other,” which raises the question whether the instant claim includes both the embodiments that follow those phrases or requires only one of those embodiments. For examination purposes, the instant claim is interpreted to require only one of those embodiments.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 5-7, 10, and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR 2813882 to Noale (see machine translation), in view of US 3,721,574 to Schneider et al.

Regarding claims 1-2 and 5, Noale teaches a fire-stop device, comprising an insulating composition covered by a surface hardener coating comprising sodium silicate (page 2, parag. 1-2 and 5-6 and page 3, parag. 6).

Noale does not expressly teach that the surface coating comprises a mixture of potassium and lithium silicates and fine aluminum particles.

Schneider et al., who relate to silicate coating compositions, disclose that the surface coating comprises water-soluble alkali metal silicates including lithium silicate, potassium silicate, and sodium silicate (column 3, lines 38-40), and fine aluminum particles or aluminum flakes (column 13, lines 39-41). Schneider et al. also teach that

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the aluminum oxide-modified silica aids in achieving a good dispersion of the coating materials throughout the coating, i.e. acting as a suspending agent as per claim 5 (column 5, lines 2-4).

It would have been obvious to one of ordinary skill in the art at time of invention to have replaced the surface hardener comprising sodium silicate with the coating of Schneider et al. in the fire-stop device provided by Noale, motivated by the fact that that Schneider et al. teach that the surface coating compositions demonstrate excellent adhesion to a variety of substrates, are water resistant, and can be rendered fireproof and hence will find a variety of utilities as will be obvious to those skilled in the art (column 2, lines 16-21 and 60-62). The limitations of claim 1 reciting “for protecting walls or structures or for producing a protective chamber” and “suitable for covering the structure to be protected, or for surrounding the protective chamber” refer to intended uses of the fire-stop device and the insulating composition in the preamble and thus do not carry any patentable weight. See MPEP § 2111.02.

Regarding claim 6, Noale does not expressly teach that the coating layer thickness is 1 mm or less.

Schneider et al. teach that the thickness of the coating layer varies between about 1 and 25 or 30 mils (column 11, lines 63-67).

It would have been obvious to one of ordinary skill in the art at time of invention to have varied the thickness depending on the substrates to which the coating is applied, the composition and viscosity of the coating material, the application method, etc.

Regarding claims 7 and 10, Noale teaches that the insulating composition comprises the following elements: grey cement, chalk, silica, hollow insulating materials and at least one element improving resistance to humidity (abstract).

Regarding claims 12 and 15, Noale teaches that the insulating composition contains at least one flow and adhesion promoter, which is cellulose ether (page 2, parag. 10).

Regarding claim 13, Noale teaches that the insulating composition contains hollow insulating materials comprising of a mixture of glass microspheres (noblite) about 50 to 60 μm in diameter and expanded fired silica spheres (perlite) about 500 to 600 μm in diameter (page 2, parag. 14).

Regarding claim 14, Noale teaches that the insulating composition contains an element that improves its intrinsic strength and moistureproofing agent, comprising of a silicate fixed to a porous filler (page 3, parag. 2).

Regarding claim 16, Noale teaches that the insulating composition has the following weight composition per 988 parts: gray cement 450; chalk 50; silica 350; hollow materials 80; expanded fired silica 30; silicate 25; and cellulose ether 3 (page 3, parag. 3).

Regarding claim 17, Noale teaches that the insulating composition is a coating with a thickness of a minimum of about 1 cm (page 2, parag. 5).

Noale does not expressly teach a thickness of between about 1.5 cm or 5 cm.

However, it would have been obvious to one of ordinary skill in the art at time of invention to have varied the thickness depending on the substrates to which the coating

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is applied, the composition and viscosity of the coating material, the application method, etc.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noale and Schneider et al. as applied to claim 2 above, in view of page 562 of *Textile Finishing Chemicals: An Industrial Guide*, by Ernest W. Flick, William Andrew: 1990.

Regarding claim 3, Noale does not expressly teach the aluminum flake has the claimed dimensions.

The absence of such a specific teaching would clearly suggest to one of ordinary skill in the art at time of invention that any conventional aluminum product can be used. In view of this, one skilled in the art would have found it obvious to use any known conventional aluminum product, e.g. that taught by Flick that has a mesh size of 325 or below, median diameter of 14-16 microns, and surface area of 2-3 m²/gm, in the fire-stop device provided by Noale, motivated by the fact Flick teaches that this alumina trihydrate compound is known to suppress flame and smoke.

7. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noale, in view of US, 5,888,280 to Montes.

Regarding claim 1, Noale teaches a fire-stop device, comprising an insulating composition covered by a surface hardener coating comprising sodium silicate (page 2, parag. 1-2 and 5-6 and page 3, parag. 6).

Noale does not expressly teach that the surface coating comprises a mixture of potassium and lithium silicates and fine aluminum particles.

Montes, who relates to silicate coating compositions, discloses that the protective coating composition comprises a mixture of lithium silicate, potassium silicate, and fine aluminum particles (column 3, lines 5-7 and 19-21; column 5, lines 20-28).

It would have been obvious to one of ordinary skill in the art at time of invention to have replaced the surface hardener comprising sodium silicate with the coating of Montes in the fire-stop device provided by Noale, motivated by the fact that that Montes teaches that the coating composition has improved high-temperature resistance, improved corrosion resistance, and zero volatile organic content, and are formulated to cure at ambient temperature to form a water insoluble protective coating, for use in such applications as a full primer or preconstruction primer, within three hours (abstract). The limitations of claim 1 reciting “for protecting walls or structures or for producing a protective chamber” and “suitable for covering the structure to be protected, or for surrounding the protective chamber” refer to intended uses of the fire-stop device and the insulating composition in the preamble and thus do not carry any patentable weight. See MPEP § 2111.02.

Regarding claim 4, Noale does not expressly teach that the surface coating comprises about 15 to 20 % by weight of aluminum particles, related to the weight of potassium silicate.

Montes teaches that the aluminum hydroxide compound is present up to about 5% by weight of the total composition (claim 4) and the potassium silicate is present in

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the range of from about 10 to 50% (claim 7). This makes about 10 to 50% by weight of aluminum particles, related to the weight of potassium silicate.

Therefore, it would have been obvious to one of ordinary skill in the art at time of invention to have varied the ratio between aluminum and potassium silicate, depending on the desired composition and viscosity of the coating material, the intended final application, the application method, the substrates to which the coating is applied, etc. Furthermore, a *prima facie* case of obviousness exists in the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art”. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

8. Claims 8-9, 11, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noale and Montes as applied to claim 1 above, in view of US 4,277,357 to Boardman.

Regarding claims 8-9 and 11, Noale teaches that the insulating composition comprises the following elements: grey cement, chalk, silica, hollow insulating materials and at least one element improving resistance to humidity (abstract).

Noale does not expressly teach the claimed hydraulic binder or the insulating composition comprising it.

Montes teaches that the protective coating composition further comprises: up to 5% of plasticizers (e.g. cement), up to about 10% of pigments and fillers such as gypsum (column 6, lines 26-54), from about 0.01 to 1% of a Group IA (e.g. lithium)

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carbonate (column 4, lines 40-64), and up to about 5% of a nucleating agent (column 4, lines 6 and 30-32).

Boardman discloses compositions comprising hydraulic cement, e.g. in the clinker form, alkali silicates, alkali carbonates, gypsum (column 9, lines 56-68; column 6, lines 43-61), and borax, which is a nucleating agent (column 4, lines 2633).

It would have been obvious to one of ordinary skill in the art at time of invention to have substituted grey cement with any hydraulic binder such as that disclosed by Montes or Boardman in the insulating composition provided by Noale, motivated by the fact that the skilled artisan would have appreciated binding the insulating composition together with known elements such as a plasterizer such as cement clinkers, gypsum, lithium carbonate, and the nucleating agent Borax in the amounts suggested by Montes because Montes teaches that the resulting protective coating has improved high-temperature resistance, improved corrosion resistance, and zero volatile organic content, and are formulated to cure at ambient temperature to form a water insoluble protective coating, for use in such applications as a full primer or preconstruction primer, within three hours (abstract).

Regarding claim 18, the instant claim is a product-by-process claim: it recites a method of molding elements to form the fire-stop device. When the reference teaches a product that appears to be the same as, or an obvious variant of, the product set forth in a product-by-process claim although produced by a different process. See *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983) and *In re Thorpe*, 777 F.2d 695,

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227 USPQ 964 (Fed. Cir. 1985). See also MPEP § 2113. As regards to the insulating composition, please refer to rejection of claim 11.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noale, Montes, and Boardman as applied above, in view of JP 1 198208 to Yamada et al.

Regarding claim 19, Noale does not expressly teach the molded elements comprising sections of chutes and sections of lids of which the ends have complementary interlocking profiles for producing a continuous channel with a constant wall thickness.

Yamada et al. discloses a fire-stop device comprising elements such as sections of chutes and sections of lids of which the ends have complementary interlocking profiles for producing a continuous channel with a constant wall thickness (Fig.s 2-5).

It would have been obvious to one of ordinary skill in the art at time of invention to have combined the references to make the claimed fire-stop device, motivated by the fact that Noale and Montes provide an insulating composition and protective surface coating that are applicable to structures that require resistances to high temperature and water and the skilled artisan would have appreciated applying these knowledge to the fire-stop device described by Yamada et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENG M. CHAN whose telephone number is (571)270-5859. The examiner can normally be reached on Monday to Friday, 8:00 am EST to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A. LORENZO/
Supervisory Patent Examiner, Art Unit 1793

/HENG M CHAN/
Examiner, Art Unit 1793